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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,813	09/25/2003	Eric Neyret	4717-7800	6832

28765 7590 03/09/2006

WINSTON & STRAWN LLP  
1700 K STREET, N.W.  
WASHINGTON, DC 20006

EXAMINER
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NGUYEN, DILINH P

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/671,813	NEYRET ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	DiLinh Nguyen	2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20 is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Drawings***

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, lines 10-11, the phrase: "provide additional heating time compared to a constant heating rate to thus minimize slip line faults in the substrate of the wafer" renders the claim indefinite. It is not clear how the additional heating time compared to a constant heating rate? Where is a constant heating rate? Since applicant's specification described the heating rate is not uniform.

Claim 19, the phrase: "a uniform heating rate at 50<sup>0</sup>C/sec" renders the claim indefinite. Where is a uniform heating rate at 50<sup>0</sup>C/sec? Since the second ramp shown in fig. 2b is non-rectilinear.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1-19, in-so-far as clear, are rejected under 35 U.S.C. 102(e) as being anticipated by Applicant Admitted Prior Art (figs. 1-2a).

- Regarding claims 1 and 19, AAPA disclose a surface treatment process for a semiconductor wafer that has been obtained using a transfer technique, which comprises:

heating such semiconductor wafer from an ambient temperature to a first higher temperature [Temperature from  $R_T$  to  $T_1$ ] (fig. 1);

pausing the heating at the first higher temperature for a time sufficient to stabilize the wafer; and

further heating the wafer from the first higher temperature to a target higher temperature  $T_2$  during a predetermined time interval, with the further heating during an initial portion of the time interval being conducted at a relatively low heating rate and

Art Unit: 2814

heating during a final portion of the time interval being conducted at a relatively higher heating rate to thus minimize slip line faults in the surface of the wafer (fig. 2a).

- Regarding claim 2, AAPA discloses that the further heating during the predetermined time interval is not uniform and overall is about  $50^{\circ}\text{C}/\text{sec}$  (fig. 2a).
- Regarding claim 3, AAPA discloses that the further heating continuously increases from the low heating rate to the high heating rate (fig. 2a).
- Regarding claims 4 and 13, AAPA discloses that the low heating rate is conducted from more than 50% to about 80% of the predetermined time interval and the high heating rate is conducted from about less than 50% to about 20% of the predetermined time interval (fig. 2a).
- Regarding claims 5 and 14, AAPA discloses pausing the heating during the initial portion of the time interval and then resuming heating (fig. 1).
- Regarding claim 6, AAPA discloses the ambient temperature is room temperature  $R_T$  and the first higher temperature  $T_1$  is about 700 to  $800^{\circ}\text{C}$  (fig. 1, page 1, lines 24-25).
- Regarding claim 7, AAPA discloses the low heating rate of the further heating is conducted from the first higher temperature  $T_1$  to an intermediate temperature of between about 800 to about  $1100^{\circ}\text{C}$  (fig. 2a), and the high heating rate of the further heating is conducted from the intermediate temperature to the target temperature (fig. 2a).
- Regarding claim 8, AAPA discloses that the temperature is about 1100 to  $1300^{\circ}\text{C}$  (fig. 2a, page 1, line 22).

- Regarding claims 9 and 16, AAPA discloses that the high heating rate of the further heating is about 25 to 50<sup>0</sup>C per second (page 6, lines 29-30).
- Regarding claims 10 and 17, AAPA discloses that the wafer is made of silicon (page 1, line 5-6).
- Regarding claims 11 and 18, AAPA discloses that the wafer is an SOI wafer (page 1, line 5).
- Regarding claim 12, AAPA disclose a surface treatment process for a semiconductor wafer that has been obtained using a transfer technique, which comprises: the first higher temperature  $T_1$  is about 700 to 800<sup>0</sup>C (fig. 1, page 1, lines 24-25); and the further heating is to a target higher temperature of about 1100 to 1300<sup>0</sup>C [ $T_2$ ] (fig. 2a) and with the relatively low heating rate conducted to an intermediate temperature of about 800 to 1000<sup>0</sup>C [the temperature can range from between  $T_1$  to  $T_2$ ] (fig. 2a) .
- Regarding claim 15, AAPA discloses that the first higher temperature  $T_1$  is around 750<sup>0</sup>C (fig. 1, page 1, lines 24-25) and the target temperature is in the range of about 1150 to 1250<sup>0</sup>C (fig. 2a, page 1, lines 22).

### **REASONS FOR ALLOWANCE**

Claim 20 is allowed (see the examiner's statement of reasons for allowance in the previous office action).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DiLinh Nguyen whose telephone number is (571) 272-1712. The examiner can normally be reached on 8:00AM - 6:00PM (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DLN



HOAI PHAM  
PRIMARY EXAMINER